

IT IS CLAIMED:

1. A Hepatitis E Virus (HEV) polypeptide composition, consisting of at least one polypeptide derived from the carboxy-terminal 549 amino acids of HEV open reading frame (ORF) 2.

2. A polypeptide composition of claim 1, where at least one polypeptide contains a carboxy terminal deletion of up to about 24 carboxy terminal amino acids of said 549 amino acid HEV ORF2 polypeptide.

3. A polypeptide composition of claim 1, where said composition contains a polypeptide having the sequence presented as SEQ ID NO:15 or a homologous sequence thereto.

4. A polypeptide composition of claim 1, where said composition contains a polypeptide having the sequence presented as SEQ ID NO:16 or a homologous sequence thereto.

5. A polypeptide composition of claim 1, where said composition contains a polypeptide having the sequence presented as SEQ ID NO:25 or a homologous sequence thereto.

6. A polypeptide composition of claim 1, where said composition contains a polypeptide having the sequence presented as SEQ ID NO:26 or a homologous sequence thereto.

7. A polypeptide composition of claim 1, where said composition contains a polypeptide having the sequence

presented as SEQ ID NO:27 or a homologous sequence thereto.

5 8. A polypeptide composition of claim 1, where said composition contains a polypeptide having the sequence presented as SEQ ID NO:28 or a homologous sequence thereto.

10 9. A polypeptide composition of claim 1, where said composition contains two polypeptides having the sequences presented as SEQ ID NO:25 and SEQ ID NO:27, or homologous sequences thereto.

15 10. A polypeptide composition of claim 1, where said composition contains two polypeptides having the sequences presented as SEQ ID NO:26 and SEQ ID NO:28, or homologous sequences thereto.

20 11. A substantially isolated nucleic acid sequence encoding a polypeptide derived from the carboxy-terminal 549 amino acids of HEV open reading frame 2.

25 12. An expression vector for producing a Hepatitis E Virus polypeptide antigen composition, comprising, a nucleic acid sequence encoding a polypeptide derived from the carboxy-terminal 549 amino acids of HEV open reading frame 2, said nucleic acid sequence inserted into an expression vector, where said nucleic acid sequence is operably linked to a promoter able to
30 initiate transcription in a selected host cell.

35 13. An expression system for producing a Hepatitis E Virus polypeptide antigen composition, comprising, a nucleic acid sequence encoding a polypeptide derived from the carboxy-terminal 549 amino acids of HEV

open reading frame 2, said nucleic acid sequence inserted into an expression vector, wherein said nucleic acid sequence is operably linked to a promoter able to initiate transcription in a selected host cell, and

5 said expression vector is carried within the host cell.

10 14. An expression system of claim 13, where said expression vector is a baculovirus expression vector and said host cell is an insect cell.

15 15. A Hepatitis E Virus (HEV) polypeptide composition produced by a process comprising,
 culturing an insect cell containing an expression vector of claim 11 under conditions sufficient to express a polypeptide encoded by said nucleic acid.

20 16. A composition of claim 15, wherein at least one polypeptide of the composition has an amino acid sequence selected from the group consisting of SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:25, SEQ ID NO:26, SEQ ID NO:27, SEQ ID NO:28, and homologous sequences therewith.

25 17. A Hepatitis E Virus (HEV) polypeptide composition produced by a process comprising,
 a) obtaining an HEV capsid derived antigen having at least 549 carboxy terminal amino acids of an HEV capsid protein; and
 b) incubating the antigen with a baculoviral
30 infected lysate under conditions sufficient to cleave carboxy terminal sequences of the HEV capsid derived antigen.

35 18. A method of producing a Hepatitis E Virus (HEV) polypeptide composition, comprising the steps of:

culturing a cell containing the expression vector of claim 11 under conditions sufficient to express a polypeptide sequence encoded by said nucleic acid.

5 19. A method of detecting hepatitis E virus infection in an individual, comprising:

a) reacting a serum sample taken from the individual with the Hepatitis E Virus (HEV) polypeptide composition of claim 1; and

10 b) examining a polypeptide of the composition for the presence of bound antibody.

15 20. The method of claim 18, wherein polypeptides of the HEV polypeptide composition are attached to a solid support, said reacting includes contacting such serum with the support and said examining includes reacting the support and bound antibody with a reporter-labeled anti-human antibody.

20 21. A kit for ascertaining the presence of antibodies to HEV in a serum sample taken from an individual, comprising:

25 a solid support with surface-bound antigens wherein the surface-bound antigens are polypeptides of the HEV polypeptide composition of claim 1.

30 22. A vaccine composition used in immunizing an individual against Hepatitis E Virus (HEV) comprising, an HEV polypeptide composition of claim 1 in a pharmacologically acceptable carrier.

35 23. A vaccine composition of claim 22, where at least one polypeptide of the composition has an amino acid sequence selected from the group consisting of SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:25, SEQ ID NO:26, SEQ

24. A method of inhibiting infection of an individual by HEV, comprising:

5 administering to the subject a vaccine composition of claim 22 in a therapeutically effective amount.